Ref. T3/2.01

DRAFT CODE OF PRACTICE FOR THE SAFE LOADING AND UNLOADING OF BULK CARRIERS

- The Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC), at its first session (5 to 9 February 1996), considered the draft Code of Practice for the Safe Loading and Unloading of Bulk Carriers (DSC 1/8, annex), prepared by the Working Group established by the Sub-Committee on Containers and Cargoes (BC) at its thirty-fourth session (27 to 31 March 1995) and agreed to the draft Code as amended and set out in the annex to this circular, for approval by the Maritime Safety Committee and adoption by the Assembly.
- Considering that the twentieth session of the Assembly has been scheduled for autumn 1997 and recognizing the importance of providing information on the Code to Administrations and other parties concerned as soon as possible for the safe operations of bulk carriers, the Sub-Committee agreed to disseminate the draft Code by means of this DSC circular to enable those involved to familiarize themselves with the Code before it is approved by the Maritime Safety Committee and adopted by the Assembly.
- Member Governments are invited to bring this circular to the attention of shipowners, ship operators, seafarers, shippers, terminal operators and other parties concerned.

ANNEX

DRAFT CODE OF PRACTICE FOR THE SAFE LOADING AND UNLOADING OF BULK CARRIERS

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Draft Code of Practice for the Safe Loading and Unloading of Bulk Carriers

Introduction

- 1. This Code of Practice for the Safe Loading and Unloading of Bulk Carriers has been developed by the International Maritime Organization because of the unacceptable losses of bulk carriers.
- 2. The purpose of the Code is to assist persons responsible for the safe loading or unloading of bulk carriers to carry out their functions and to promote the safety of bulk carriers.
- 3. The Code primarily covers the safety of ships loading and unloading solid bulk cargoes, excluding grain, and reflects current issues, best practices and legislative requirements. Broader safety and pollution issues such as those covered by the SOLAS, MARPOL and Load Line Conventions are not specifically included in the Code.
- 4. The recommendations in this Code provide guidance to shipowners, masters, shippers, operators of bulk carriers, charterers and terminal operators for the safe handling, loading, and unloading of solid bulk cargoes. The recommendations are subject to terminal and port requirements, or national regulations. Persons responsible for the loading or unloading of bulk carriers should also be aware of such regulations and requirements.
- 5. Masters and terminals loading and unloading solid bulk cargoes possessing chemical hazards should also refer to SOLAS chapters II-2 and VII and MSC/Circ.675 Recommendations on the Safe Transport of Dangerous Cargoes and Related Activities in Port Areas.
- 6. The requirements of individual terminals and port authorities should be published in terminal and port information books. The type of information usually given in these books is listed in Appendix 1. The books should be given to the masters of ships when they arrive at a port or terminal.
- 7. It is recommended that a copy of this Code be made available to every ship, charterer and bulk loading or unloading terminal so that advice on operational procedures is readily available and respective responsibilities identified.

SECTION 1 - **DEFINITIONS**

For the purpose of the Code the following definitions apply:

1.1 Air draught

The vertical distance from the surface of the water to the top of the hatch cover, mast, aerial or other feature.

1.2 Conveyor system

The entire system for delivering cargo from the shore stockpile or receiving point to the ship.

1.3 List indication lights

Lights, visible from the deck, which light up to show that a ship is listing.

1.4 Oil/Bulk/Ore Carrier (OBO)

A ship whose design is similar to a bulk carrier but which is equipped with pipelines, pumps and inert gas plant so as to enable the carriage of oil cargo in the holds.

1.5 Ore/Oil Carrier (O/O)

A ship similar in design to an ore carrier (ie with small central holds and deep double bottom structure) which is equipped with pipelines, pumps and inert gas plant so as to enable the carriage of oil cargo in the holds and designated wing tanks.

1.6 Pour

The quantity of cargo poured through one hatch opening as one step in the loading plan, ie. from the time the spout is positioned over a hatch opening until it is moved to another hatch opening.

1.7 Trimming (loading cargo)

Trimming is the partial or total levelling of the cargo within the holds, by means of loading spouts or chutes, portable machinery, equipment or manual labour.

1.8 Trimming (unloading cargo)

The shovelling or sweeping up of smaller quantities of the cargo in the holds by mechanical means (such as bulldozers) or other means to place in a convenient position for discharge.

1.9 Trimming (ship)

The adding, removal or shifting of weight in a ship to achieve the required forward and aft draughts.

SECTION 2 - SUITABILITY OF SHIPS

2.1 General

- 2.1.1 All ships nominated for loading should hold the appropriate valid statutory certification including, if required, the document of compliance¹ for ships carrying solid dangerous goods in bulk. It is recommended that the period of validity of the ship's certificates be sufficient to remain valid during loading, voyage and unloading times, plus a reserve to allow for delays in berthing, inclement weather or both.
- 2.1.2 The shipowner, manager or operator when offering a ship for a particular cargo or service should ensure that the vessel:
 - (i) is maintained in a sound, seaworthy condition;
 - (ii) has on board a competent crew.
 - (iii) has on board at least one officer proficient in the languages used at both the loading and unloading ports, or has an officer available who is proficient in the English language; and
 - (iv) is free of defects that may prejudice the ship's safe navigation, loading or unloading.
- 2.1.3 It is essential that a ship selected to transport a solid bulk cargo be suitable for its intended purpose taking into account the terminals at which it will load or unload.
- 2.1.4 The charterer and shipper when accepting a ship for a particular cargo or service should ensure that the vessel:
 - (i) is suitable for access to the planned loading or unloading facilities; and
 - (ii) does not have cargo handling equipment which would inhibit the safety of the loading and unloading operations.
- 2.2 Ship suitability for the particular cargo
- 2.2.1 Ships nominated for bulk loading should be suitable for the intended cargo. Suitable ships should be:
 - (i) weather-tight, and efficient in all respects for the normal perils of the sea and the intended voyage;

Applicable to ships constructed on or after 1 September 1984.

- (ii) provided with an approved stability and loading booklet written in a language understood by the ship's officers concerned and using standard expressions and abbreviations. If the language is neither English, nor French, nor Spanish, the translation into one of these languages should be included;
- (iii) provided with hatch openings of sufficient size to enable the cargo to be loaded, stowed and unloaded satisfactorily; and
- (iv) provided with the hatch identification numbers used in the loading manual and loading or unloading plan. The location, size and colour of these numbers should be chosen so that they are clearly visible to the operator of the loading or unloading equipment.
- 2.2.2 It is recommended that all ships which are required to carry out stress calculations should have on board an approved loading instrument for the rapid calculation of such stresses.
- 2.3 Machinery and equipment
- 2.3.1 All propulsion and auxiliary machinery should be in good functional order. Deck equipment related to mooring and berthing operations including anchors, cables, mooring lines, hawsers and winches should be operable and in good order and condition.
- 2.3.2 All hatches, hatch operating systems and safety devices should be in good functional order, and used only for their intended purpose.
- 2.3.3 List indication lights if fitted, should be tested prior to loading or unloading and proved operational.
- 2.3.4 Ship's own cargo handling equipment should be properly certificated and maintained, and used only under the general supervision of suitably qualified ship's personnel.

SECTION 3 - PROCEDURES BETWEEN SHIP AND SHORE PRIOR TO THE SHIP'S ARRIVAL

3.1 Information exchange - general

- 3.1.1 It is important that the ship be provided with information about a terminal so the loading or unloading can be planned. Similarly, the terminal will need information about the ship to enable preparations to be made to load or unload the ship. It is important that the information be exchanged in sufficient time to allow preparations to be made.
- 3.1.2 Before loading commences there should be an agreement between the ship and the terminal as to the rate of loading and order in which the cargo is to be distributed to achieve the final loading plan. In general, this agreement should be based on one or more of the following options:
 - (i) the limitations or restrictions on loading procedures if such are specified in the ship's Loading Manual, Trim and Stability Booklet or both;
 - (ii) if the restrictions mentioned in item (i) do not exist and the ship has a loading instrument which has been approved, the loading plan should be prepared on the instrument and there should be a protocol in place so that the loading remains, at all times, within the approved stress limits of the ship; and/or
 - (iii) if neither item (i) or (ii) can be satisfied, then a conservative procedure should be followed.
- 3.1.3 Details should be provided of any necessary repairs which may delay berthing, the commencement of loading or unloading, or may delay the ship sailing on completion of loading or unloading.
- 3.1.4 The master should ensure he receives from the shipper of the intended cargo, details of the nature of the cargo required by chapter VI of SOLAS 1974, as amended². Where additional requirements, such as trimming or continuous measurement of the water in the cargo, etc., is required, the master should inform the terminal accordingly.

Reference is made to MSC/Circ.663 and the cargo declaration form, which is set out in Appendix 5.

- 3.2 Information given by the ship to the terminal
- 3.2.1 In order to plan the proper disposition and availability of the cargo, to meet the ship's loading plan, the loading terminal should be given the following information.
 - (i) The ship's estimated time of arrival (ETA) off the port as early as possible. This advice should be updated as appropriate.
 - (ii) At the time of initial ETA advice, the ship should also provide details of the following:
 - (a) name, call sign, IMO Number of the ship, its flag State and port of registry;
 - (b) defects of hull, equipment or machinery which affect safe manoeuvrability, the safety of the ship or other ships, or the protection of the marine environment;
 - (c) details of statutory certificates and their period of validity;
 - (d) the quantity of cargo required, stowage by hatches, loading order and the quantity to be loaded in each pour, provided the ship has sufficient information to be able to prepare a plan;
 - (e) arrival and proposed departure draughts;
 - (f) time required for de-ballasting;
 - (g) the ship's length overall, beam, and length of the cargo area from the forward coaming of the forward-most hatch to the after coaming of the aft-most hatch into which cargo is to be loaded or from which cargo is to be removed;
 - (h) air draught adjacent to the first hatch to be loaded or unloaded and the distance from the ship's side to the hatch opening;
 - (i) the location of the ship's accommodation ladder;
 - (j) air draught to highest point of mast or aerial;
 - (k) details and capacities of ship's cargo handling gear;
 - (l) number, type and condition of mooring lines; and
 - (m) any other item related to the ship requested by the terminal.
 - (iii) Similar information in respect of ETA, unloading plan and details of the ship are required by unloading terminals.

- 3.2.2 Ships arriving at loading or unloading terminals in a part loaded condition should also advise:
 - (i) berthing displacement and draughts;
 - (ii) previous loading or unloading port;
 - (iii) nature and stowage of cargo already on board and, when dangerous goods in bulk are on board, the name of the material, IMO Class and UN Number or BC Number.
 - (iv) distribution of cargo on board, indicating that to be unloaded and that to remain on board.
- 3.2.3 Oil-Bulk-Ore (OBO) and Ore/Oil (O/O) carriers should advise the following additional information;
 - (i) nature of the preceding three cargoes;
 - (ii) date and place at which the last oil cargo was discharged;
 - (iii) advice as to content of slop tanks and whether fully inerted and sealed; and
 - (iv)³ date, place and name of authority that issued the last gas free certificate which includes pipelines and pumps.
- 3.2.4 As soon as possible the ship should confirm that all holds into which cargo is to be loaded are clean, and free from previous cargo residues which in combination with the cargo to be loaded could create a hazard.
- 3.2.5 Information on the Loading or Unloading Plan, and intended arrival and departure draughts should be progressively updated and passed to the terminal as circumstances change.
- 3.3 Information given by the terminal to the ship
- 3.3.1 On receipt of the ship's initial notification of its ETA, the terminal should give the ship the following information:
 - (i) the name of the berth at which loading or unloading will take place and the estimated times for berthing and completion of loading or unloading;
 - (ii) characteristics of the loading or unloading equipment including the terminal's nominal loading or unloading rate, and the number of loading or unloading heads to be used;
 - (iii) features of the berth or jetty the Master may need to be aware of, including the position of fixed and mobile obstructions, fenders, bollards and mooring arrangements;

Reference is made to the chapter for combination carriers in the International Safety Guide for Oil Tankers & Terminals (ISGOTT) and in particular the section on cargo change-over cheklists and the section on discharge of bulk cargo.

⁽iv) minimum depth of water alongside the berth and in approach or departure channels;

- (v) water density at the berth;
- (vi) the maximum permissible air draught at the berth for the ship in way of the cargo hatches, and in way of the highest point of the ship's structure;
- (vii) arrangements for gangways and access;
- (viii) which side of the ship is to be alongside the berth;
- (ix) maximum allowable speed of approach to the jetty and availability of tugs, their type and bollard pull;
- (x) the loading sequence for different parcels of cargo and any other restrictions if it is not possible to take the cargo in any order or any hold to suit the ship;
- (xi) any properties of the cargo to be loaded which may present a hazard when placed in contact with cargo or residues on board;
- (xii) advance information on the proposed cargo handling operations or changes to existing plans for cargo handling;
- (xiii) if the terminal's loading or unloading equipment is fixed, or any limits to its movement;
- (xiv) mooring lines required;
- (xv) warning of unusual mooring arrangements;
- (xvi) any restrictions on de-ballasting; and
- (xvii) maximum sailing draught permitted by the port authority.
- 3.3.2 Information on estimated times for berthing and departure and on minimum water depth at the berth should be progressively up-dated and passed to the ship on receipt of successive ETA advices.
- 3.3.3 The terminal should be satisfied that the ship has been advised as early as possible of the information contained in the cargo declaration as required by chapter VI of SOLAS 1974, as amended.

SECTION 4 - PROCEDURES BETWEEN THE SHIP AND TERMINAL PRIOR TO CARGO HANDLING

4.1 Principles

- 4.1.1 The Master is responsible at all times for the safe loading and unloading of the ship, the details of which should be confirmed to the terminal in the form of a loading or unloading plan. In addition, the Master should:
 - (i) ensure that the check list in Appendix 3 is completed in consultation with the terminal before loading or unloading is commenced;
 - (ii) ensure that the loading or unloading of cargo and the discharge or intake of ballast water is under the control of the ship's officer in charge;
 - (iii) monitor the disposition of cargo and ballast water throughout the loading or unloading process to ensure that the ship's structure is not overstressed;
 - (iv) ensure that ballast water is discharged at rates which conform to the agreed loading plan and do not result in flooding of the quay or of adjacent craft;
 - (v) retain on board sufficient officers and crew to attend to the adjustment of mooring lines or for any normal or emergency situation. Masters should ensure that, all crew members involved in cargo operations have had sufficient rest periods to avoid fatigue;
 - (vi) ensure the loading or unloading plans have been passed to the terminal;
 - (vii) ensure that the terminal understands the cargo trimming requirements;
 - (viii) ensure that appropriate information about the cargo to be loaded has been received to enable safe stowage and carriage to be achieved;
 - (ix) ensure that there is agreement between ship and shore as to the action to be taken in the event of rain, or other change in the weather, when the nature of the cargo would pose a hazard in the event of such a change; and
 - (x) ensure that no hot work is carried out on board the ship while the ship is alongside the berth except with the permission of the terminal and in accordance with any requirements of the port administration.
- 4.1.2 The terminal is responsible for loading or unloading cargo in accordance with the hatch sequence and tonnages stated on the ship's loading or unloading plan. In addition, the terminal should:
 - (i) complete the check list in Appendix 3 in consultation with the ship's representative before loading or unloading is commenced;

- (ii) not deviate from the loading or unloading plan unless by prior consultation and agreement with the master;
- (iii) trim the cargo, when loading or unloading, to the master's requirements;
- (iv) maintain a record of the weight and disposition of the cargo loaded or unloaded and ensure that the weights in the hold do not deviate from the plan;
- (v) provide the ship with the names and procedures for contacting terminal personnel or shipper's agent who will have responsibility for the loading or unloading operation and with whom the ship will have contact;
- (vi) avoid damage to the ship by the loading or unloading equipment and inform the ship if damage occurs;
- (vii) ensure that no hot work is carried out on board or in the vicinity of the ship while the ship is alongside the berth except with the permission of the Master and in accordance with any requirements of the port administration; and
- (viii) ensure that there is agreement between the ship and the terminal at all stages and in relation to all aspects of the loading or unloading operation.

4.2 Procedures

- 4.2.1 The following are considered important procedures in respect of cargo loading:
 - (i) responsible representatives of the ship and terminal should indicate agreement to the loading plan before commencement of loading by signing the plan in the spaces provided;
 - (ii) the ship should state on the agreed loading plan, the order in which the holds are to be loaded, the weight of each pour, the total weight in each hold and the amount of cargo for vessel trimming purposes, if required;
 - (iii) the terminal, on receipt of the ship's initial loading plan (see 3.2.1), should advise the ship of the nominal loading rate at which the ship may expect to receive the cargo and the estimated time required to complete each pour;
 - (iv) where it is not practical for the ship to completely discharge its ballast water prior to reaching the trimming stage in the loading process, the ship and the terminal should agree on the times at which loading may need to be suspended and the duration of such suspensions;
 - (v) the loading plan should be prepared so as to ensure that all ballast pumping rates and loading rates are considered carefully to avoid overstressing the hull;

- (vi) the quantities of cargo required to achieve the departure draft and trim should allow for all cargo on the terminal's conveyor systems to be run off and empty on completion of a loading. The terminal should advise the ship the nominal tonnage contained on its conveyor system and any requirements for clearing the conveyor system on completion of loading; and
- (vii) communication arrangements between the ship and terminal should be capable of responding to requests for information on the loading process and of prompt compliance in the event that the master or terminal supervisor orders loading to be suspended. Consideration should be given to the disposition of cargo on, the conveyor systems and the response time in the event of an emergency stop.
- 4.2.2 The following are considered important procedures in respect of cargo unloading:
 - (i) the terminal when proposing or accepting the initial unloading plan should advise the ship of the nominal unloading rate and the estimated time required for each stage of the discharge;
 - (ii) the ship should advise the hold order and the weight to be unloaded in each stage of the discharge;
 - (iii) the terminal should give the ship the maximum warning when it is intended to increase, or to reduce, the number of unloading heads used; and
 - (iv) communication arrangements between ship and shore should be capable of responding to requests for information on the unloading process, and of prompt compliance in the event the master orders unloading to be suspended.

4.3 Implementation

- 4.3.1 The loading or unloading plan should be prepared in a form such as that shown in Appendix 2. Worked examples of this form are also shown in appendix 2. A different form may be used provided it contains the essential information to meet the requirements of this code. The minimum information for this purpose is that enclosed in the heavy line box on the sample form.
- 4.3.2 The loading or unloading plan should only be changed when a revised plan has been prepared, accepted and signed by both parties. Loading plans should be kept by the ship and terminal for a period of six months.
- 4.3.3 A copy of the agreed loading or unloading plan and any subsequent amendments to it should be lodged with an independent third party.

SECTION 5 - CARGO LOADING AND HANDLING OF BALLAST

5.1 General

- 5.1.1 The terminal should advise the ship on the completion of each hold pour and confirm the next hold, grade and weight to be loaded as stated in the agreed loading plan.
- 5.1.2 Ballast should be discharged in accordance with approved allowable stress limitations and the terminal informed prior to and during the loading process of the rate and progress. The terminal personnel should be similarly aware of any limitations with respect to the ship's deballasting rate and be prepared to stop loading according to the arrangements made under Section 4.2.1(iv) to allow the ship to de-ballast safely.
- 5.1.3 The terminal should maintain a reasonably consistent loading rate and an accurate record of the weight of cargo loaded on board.
- 5.1.4 The degree of trimming required is determined by the properties of the cargo being loaded. Where trimming is required, it should be in accordance with the procedures of the IMO "Code of Safe Practice for Solid Bulk Cargoes" (BC Code).

5.2 Checks during loading

- 5.2.1 The master should be alert that when the cargo is heavy, or the individual grab loads are large, there may be high, localized, impact loads on the ship's structure until the tank top is completely covered by cargo, especially if high free-fall drops are permitted. Such impacts have the potential for causing structural damage. When these conditions exist, special care should be taken at the start of the loading operation in each cargo hold.
- 5.2.2 At the start of and during all stages of cargo loading, the responsible ship's officer should make frequent checks to ensure that:
 - (i) the cargo is being loaded into each hold in accordance with the agreed loading plan;
 - (ii) the deballasting operation is proceeding in accordance with the agreed loading plan;
 - (iii) there is no discharge of oil or other polluting substance;
 - (iv) measures are taken to prevent unauthorised access to enclosed spaces. An enclosed space may only be entered after authorization by the master or officer in charge and only after all appropriate safety checks⁴ have been carried out;

Reference is made to Appendix F of the BC Code and the IMO "Maritime Safety Card" for entering cargo spaces, tanks, pump-rooms, fuel tanks, cofferdams, duct keels, ballast tanks, and similar enclosed spaces.

- (v) the ship is securely berthed and weather conditions are monitored. Weather forecasts should be obtained;
- (vi) the loading terminal is kept fully informed of developments;
- (vii) the draught is read regularly to monitor progress of the loading and to avoid overloading;
- (viii) the terminal is warned immediately if the loading process has caused damage or is likely to do so:
- (ix) the ship is kept upright or, if a list is required for operational reasons, it is kept as small as possible; and
- (x) the loading of the port side closely matches that of the starboard side of the same hold, to avoid twisting.
- 5.2.3 The terminal should regularly monitor the weight of the cargo that is being loaded and has been loaded onto the ship and compare it with the agreed loading plan.
- 5.2.4 Where weight-meters are used to measure the quantity of cargo delivered to the ship, the terminal should ensure that such devices are well maintained and accurate to within 1% of the rated quantity required over the normal range of loading rates. Where there is a known scale error, the terminal should advise the ship of the actual quantities loaded.
- 5.2.5 Loading rates and sequences should not be altered by the terminal unless by prior consultation and agreement with the ship.
- 5.2.6 Monitoring and effective communication between the terminal and the ship, must be maintained at all times and especially during final trimming of the ship.
- 5.3 Completion of loading
- 5.3.1 The master should advise the terminal when final trimming of the ship is to commence.
- 5.3.2 The master should ensure close supervision of the loading operation and of the vessel during the final stages of loading, to allow for the conveyor system run-off, to prevent overloading and to ensure proper stowage of the cargo in accordance with the agreed loading plan.
- 5.3.3 On completion of loading, the ship and the terminal should agree in writing that the vessel has been loaded in accordance with the loading plan, including any agreed variations

SECTION 6 - UNLOADING CARGO AND HANDLING OF BALLAST

- 6.1 General
- 6.1.1 The terminal should follow the agreed unloading plan, and should consult with the ship if there is a need to amend the plan.
- 6.1.2 The ship should prevent the loading of ballast water from interfering with the unloading process.
- 6.1.3 The terminal should maintain a record of the tonnage of cargo unloaded from each hold, and to pass this information regularly to the ship.
- 6.1.4 The terminal should make every effort to avoid damage to the ship when using unloading or hold cleaning equipment. If damage does occur, it should be reported to the ship and, if necessary, repaired. If the damage could impair the structural capability or watertight integrity of the hull, or the ship's essential engineering systems, the ship's classification society should be called upon to decide whether immediate repair is necessary or whether it could be deferred. In either case, the repair should be to the classification society's satisfaction.
- 6.2 Checks during unloading
- 6.2.1 At the start and during all stages of unloading cargo, the responsible ship's officer should make frequent checks to ensure that:
 - (i) cargo spaces and other enclosed spaces are well ventilated, and persons are allowed to enter them only after they have been declared safe for entry⁵;
 - (ii) the cargo is being unloaded from each hold in accordance with the agreed unloading plan;
 - (iii) the ballasting operation is proceeding in accordance with the agreed unloading plan;
 - (iv) there is no discharge of oil or other polluting substance;
 - (v) the ship is securely berthed and weather conditions are being monitored. Weather forecasts should be obtained:
 - (vi) the unloading terminal is kept fully informed of developments;

Reference is made to Appendix F of the BC Code and the IMO "Maritime Safety Card" for entering cargo spaces, tanks, pump-rooms, fuel tanks, cofferdams, duct keels, ballast tanks and similar enclosed compartments.

- (vii) the ship's draught is read regularly to monitor the progress of the unloading;
- (viii) the terminal is warned immediately if the unloading process has caused damage, has created a hazardous situation, or is likely to do so;
- (ix) the ship is kept upright or if a list is required for operational reasons, it is kept as small as possible; and
- (x) the unloading of the port side closely matches that of the starboard side if the same hold, to avoid twisting the ship.
- 6.2.2 Unloading rates and sequences should not be altered by the terminal unless by prior consultation and agreement between the ship and the terminal.
- 6.2.3 Effective communications and monitoring must be maintained at all times.
- 6.2.4 In the case of an OBO or O/O carrier which ballasts one or more holds, the atmosphere above the ballast in the hold should be tested before any hot work is permitted adjacent to or above that space.⁶
- 6.3 Completion of Unloading
- 6.3.1 The terminal should advise the Master when unloading is considered to be completed from each hold.
- 6.3.2 The Master should closely supervise the final stages of the unloading, to ensure that all cargo is unloaded, and to detect and record any damage suffered by the ship.
- 6.3.3 On completion of unloading, the ship and the terminal should agree in writing that the ship has been unloaded in accordance with the agreed unloading plan, with holds cleaned to the master's requirements.

Refer to the International Safety Guide for Oil Tankers & Terminals (ISGOTT), section on hot work and the section on testing of cargo tanks on combination carriers.

RECOMMENDED CONTENTS OF PORT AND TERMINAL INFORMATION BOOKS

1.	It is recommended that information books prepared by terminal operators, port authorities or both should contain the following information relating to their site specific requirements:-
1.1	Port Information Books:
1.1.1	Location of the port and the terminal
1.1.2	Details of port administration
1.1.3	Radio communication procedures and frequencies
1.1.4	Arrival information requirements
1.1.5	Port health, immigration, quarantine and customs regulations and procedures
1.1.6	Relevant charts and nautical publications
1.1.7	Pilotage requirements
1.1.8	Towage and tug assistance
1.1.9	Berthing and anchorage facilities
1.1.10	Port emergency procedures
1.1.11	Significant weather features
1.1.12	Availability of fresh water, provisions, bunkers and lubricants
1.1.13	The maximum size of ship the port can accept
1.1.14	Maximum and minimum depths of water in navigation channels
1.1.15	Tidal and current information, as it affects ship movements
1.1.16	Restrictions or conditions on the discharge of ballast water
1.1.17	Statutory requirements regarding loading and cargo declaration

1.2	Terminal Information Books:
1.2.1	Details of terminal administration
1.2.2	Technical data on the berths and loading or unloading equipment
1.2.3	Depth of water at the berth
1.2.4	Water density at the berth
1.2.5	The minimum and maximum size of ship which the terminal's facilities are designed to accept including the minimum clearance between deck obstructions
1.2.6	Mooring arrangements and attendance of mooring lines
1.2.7	Loading or unloading rates and equipment clearances
1.2.8	Loading or unloading procedures and communications
1.2.9	Cargo weight determinations by weight-meter and draught survey
1.2.10	Conditions for acceptance of OBO and O/O carriers
1.2.11	Access to and from ships and berths or jetties
1.2.12	Terminal emergency procedures
1.2.13	Damage and indemnity arrangements
1.2.14	Landing location of accommodation ladder
1.3	Extreme cold weather information
	Ports and terminals situated in regions subject to extreme cold weather should advise master where to obtain information on operation of ships under such conditions.

	LOAD	NG OR	UNL	OADING PL	AN	Progr	ramme ve	rsion No.:).:			No. of Loaders/Dischargers																		
Ship:		Load/ Port:	Disch.		Max Draug Available (F				Max Airdraught in Berth: Assumed Stowage factor of Cargo:				or	Ballast Pumping Rate:																
Date Comme	Date Max Sailing Min. Draug Commenced: Draught: Available (I					L	ast Cargo):			Load/D Rate:	isch.																		
		11		10	9	8	8	7	6	5		4		3		2		1												
Tonnes Grade	S																													
Totals	Gra	ade		Tonnes	Grade			Tonnes	Grade:	Tonnes			Tota	l				Tonnes												
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Pour No.	Hold No.	Tonnes	Ball	ast Operations	s		Req'd (Hrs.)														Fwd	Aft			Air Draugh		Trim	Fwd	Aft	Mid
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	ries withi			be he entries							THE N Pours	MASTER	d mbered I	l 1a, 2a PI = Pi		AN WITHO When using t GI = Gra GO = Gra	wo loade vitate In	ers. F	PROVA = Full T = En											
	the box				Signed Ter	minal		Signed S	Ship				•	- •		22 310			211	F-7										

^{*}BM & SF are to be expressed as a percentage of maximum permitted in-port values for intermediate stages, and of maximum permitted at-sea values for the final stage. Every step in the loading/unloading plan must remain within the allowable limits for hull girder shear forces, bending moments and tonnage per hold, where applicable. Loading/unloading operations may have to be paused to allow for ballasting/deballasting in order to keep actual values within limits.

A WORKED EXAMPLE

	LOADING OR UNLOADING PLAN	UNLOADING	PLAN	Programme version No	1 -	1 (DISCHARGING) NO OHEADERS I DISCHARGES	Paine	No of tea	ders / Dischi	angers	No oltenders / Dischangers			
-	Fort.	100V	Max Drah Avadable (HW)	17.35	Mar Auchah	4		Assumed of Cargo:	SFoundation			Puriping Raie 6000 4/h	000	t/2
	Har Sailing //	1.30	Min Diali Available (LW)	7.59	Dock Water Density	1.025	Ŋ	Cast Carg	180V 00E 135.7.9	7,6	-, L	tale (1,250 t/h	8	17
	Q	6	20	· i	•	4	•	- i			- 1	7	200	, [
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1 \.7	Course FINES: 44 706 Towners	1	6£6:0	OB Towners	- 3		١		13	14	142,614	I	lowes	
			3	Fine			Cal	Culated	YCS.	Catro	Calculated Values	Observ	Observed Values	
		Hallasi Operations	1640	legal .	Comments		41.7	F	M. SF.	₹ 6	Per Irea	55.3	NEW TANK	PHY
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0000	G1 4DBs.	PI 4UWTS		8.0 LUMP.			13.44/450	15 751	1 56		0/7			
	101 3 DBC		4	7.2 (UMO			12.1913.68	££ 89	7 78		1.49	i	!	
9000	X I						,		-					
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9568			7.	7.0 Fines	: ; ;		9.38 10.64 80 52	18	52		92:/			
8756 7050 8144	1616 Pl 1	Flak & 3 UNTS	1 .	6.5 Fins			7.59	30 8	7.89 11.30 84 -82		3.7			
	enny Nob Hold and leave	Land lea	- 3	cean as	o paritele	rissible as more as jurgitle.	27.0	- 2	2 lete.	7.7	This will then the	122	13	11
	Luddozu	- blades must	एँ अ	2 2	Lu allowed to strike the skots	ed 10	trike	X	85	57	Struch Ke.	<u>: :</u>	Dance	13
	ے دہ :	_		ن ک	eclyclor Alako ki	des des	737	after	a/LU COTTLET.		9 Cast	1 1	R566-	H
		+5.01 1.17	3	S/E	SEAGOING GONDING 7:59 11:30 84-82	Co N. Dinoy:	7.59 11	30 80	7-62		3.37		<u>:</u> :	1 1
412614	Signed Terminal	- Mysser	1.88/	Signed ship	1	4. Smith		EVIATION to be numb	FROM ABO	VE PLAN 2B, etc. wh	E	OR APPROV	/AL OF TH]¥ H
	All entries within the box must be completed as far				Λ		Abore	Abbreviations:	1. a.	PI = Pump In PO = Pump Out	Ħ	GI = Gravitate In GO = Gravitate Out	F = Full MT = Empty	all Empty
ð	the box are optional						l							

as possible. The entries outside the box are optional

MA & S. Ster to be expressed as a percentage of maximum permitted in-port values for infermedate stages, and of maximum permitted at-sea values for the final stage.

Every step in the loading/unloading plan must remain within the allowable limits for hull girder shear forces, bending moments and stonage per hold, where applicable.

Loading/unloading operations may have to be paused to allow for ballseting/deballseting in order to keep setual values within finite.

SHIP SHORE SAFETY CHECK LIST

Insert the IMO Ship/Shore Safety Check List from MSC/Circ.690, annex, pages 1 to 4.

GUIDELINES FOR COMPLETING THE SHIP/SHORE SAFETY CHECK LIST

Insert the Guidelines for Completing the Ship/Shore Safety Check List from MSC/Circ.690, annex, pages 5 to 9

FORM FOR CARGO INFORMATION (Recommended layout)

Note: This form is not applicable if the cargo to be loaded requires a declaration under the requirements of SOLAS 1974, chapter VII, regulation 5; MARPOL 73/78, Annex III, regulation 4; and the IMDG Code, General Introduction section 9.

Shipper	Reference number(s)				
Consignee	Carrier				
Name/means Port/place of transport of departure	Instructions or other matters				
Port/place of destination					
General description of the cargo (Type of material/particle size)* * For solid bulk cargo	Gross mass (kg/tonnes) □ General cargo □ Cargo unit(s) □ Bulk cargo				
Specification of bulk cargo* Stowage factor Angle of repose Trimming procedures Chemical properties** if potential hazard * If applicable ** e.g., IMO class, UN No. or BC No. and EmS No.					
Relevant special properties of the cargo	Additional certificate(s)* □ Certificate of moisture content and transportable moisture limit □ Weathering certificate □ Exemption certificate □ Other (specify) * if required				
DECLARATION I hereby declare that the consignment is fully and accurately described and that the given test results and other specifications are correct to the best of my knowledge and belief and can be considered as representative for the cargo to be loaded.	Name/status, company/organization of signatory Place and date Signature on behalf of shipper				

As an aid to paper documentation, Electronic Data Processing (EDP) or Electronic Data Interchange (EDI) techniques may be used.

This form meets the requirements of SOLAS 1974, chapter VI, regulation 2; and the BC Code, section 4, subsection 4.1.